PSC of WISCONSIN

Public Service Commission of Wisconsin Office of Energy Innovation
Critical Infrastructure Microgrid and Community Resilience Center Pilot Grant Program

OEI Wisconsin Office of Energy Innovation

ATTACHMENT A - COVER SHEET

SECTION I - Provide information summarizing the project proposal.				
Project Title:	Town of La Pointe Microgrid Feasibility Study			
PSC Grant Request ($):	**Applicant Cost Share ($):**	**Project Total ($):**		
47,000.00	10,858.15	57,858.15		
Choose one Eligible Activity				
☐ Critical Infrastructure Microgrid Feasibility Study Level 1 and 2	X Critical Infrastructure Microgrid Feasibility Study Level 3	☐ Community Resilience Center Feasibility Study		
SECTION II - Provide information for your organization, signatory, and primary contact for the project.				
Applicant Type:	☐ City	☐ Village	X Town	☐ County
☐ Tribal Nation	☐ Wisconsin Technical College System			
☐ University of Wisconsin System	☐ K-12 School District	☐ 501(c)(3) nonprofit		
☐ Municipal Utility (water, wastewater, electric, naturalgas)	☐ Hospital (public or nonprofit)			
Name (on W-9):	Town of La Pointe			
Address (on W-9):	PO Box 270 / 240 Big Bay Road / La Pointe, WI 54850			
County or Counties Served by Project:	Ashland			
DUNS Number or CAGE Code:	028133358			
NAICS Code:	999300			

Authorized Representative/Signatory (Person authorized to submit applications and sign contracts)		**Primary Contact** (if different from Authorized Representative)
Name:	Michael Kuchta	**Name:**
Title:	Town Administrator	**Title:**
Phone:	715-747-6914	**Phone:**
E-mail:	administrator@townoflapointewi.gov	**E-mail:**
Signature of the Authorized Representative	Michael Kuchta	

Town of La Pointe
La Pointe Microgrid Feasibility Study

Summary of Project Budget				
Line	**Description**	**PSC Grant Request**	**Applicant Cost Share**	**Total Project Cost**
1	Personnel		$3,053	$3,053
2	Fringe		$0	$0
5	Travel	$3,000	$430	$3,430
6	Contractual	$44,000	$7,375	$51,375
7	Other			$0
8	Indirect			$0
	Totals	$47,000	$10,858	$57,858
	% of Total	**81%**	**19%**	

Applicant Comments: Enter budget information into the gray fields of the Summary Project Budget. Fields are formatted to display whole numbers. This document is formatted to print on 8.5"x11" paper. Include it as directed in your PDF application. Definitions of each line item are provided on the Definitions Tab. (Use this space to add additional budget information.) **Budget details are included in the main narrative.**

TOWN OF LA POINTE
MADELINE ISLAND
240 Big Bay Road
PO Box 270
LA POINTE, WI 54850
715-747-6913

CRITICAL INFRASTRUCTURE MICROGRID PILOT GRANT APPLICATION
TOWN OF LA POINTE MICROGRID FEASIBILITY STUDY

August 2021

3.3 Application Narrative

The Town of La Pointe, whose jurisdiction covers Madeline Island, proposes a feasibility study for a Level 3 microgrid for critical infrastructure on the island.

The island is the largest of the Apostle Islands; it is the only one of the Lake Superior islands that is inhabited permanently. Because La Pointe is 2.5 miles from the mainland, it has unique needs in developing and maintaining an independent and sustainable existence. Most island residents have their own wells and sanitary systems. There are no natural gas facilities on the island; most residents rely on propane, wood, or electricity for heat. Developing a resilient power grid is part of the island's survivability plan.

Madeline Island's remoteness, rural character, and limited access complicate emergency and disaster assistance and logistics. That is most visibly true for first responders. Formal mutual aid agreements, for example, are impractical because of the need and challenges in ferrying equipment and crews from the mainland. However, even ad hoc support may not be available in winter and other times of the year. For example, the closest land-based aid is a 25-minute ferry ride away during ice-free navigation; adequate response can take three times as long when the ferry must navigate ice. When the lake is frozen over and the ferry stops operating for the winter, the ice is traversable only by foot, snowmobile, a hybrid wind-powered boat, or sometimes light cars and pickup trucks. Vehicles such as fire trucks, standard ambulances, and heavy equipment cannot risk traversing the ice. For these reasons, the Town maintains its own fully equipped volunteer fire and ambulance services on the island.

The same is true for utility crews. For much of the year, Madeline Island Ferry Line runs special ferries to accommodate utility crews and equipment. In winter, the main electrical provider, Xcel Energy, stores repair trucks and other equipment on the island to maintain some emergency capability.

The island's year-round population is growing robustly. The 2010 U.S. Census lists 237 residents; however, 294 adults voted in November 2020, suggesting a growth rate of more than 25 percent during the decade. During vacation season from May into October, that population grows by an average of 7,000 each week – summer residents, campers, short-term renters, and daily visitors, according to information reported by the chamber of commerce. (Updated population demographics are not yet available from the U.S. Census.)

To begin addressing the island's resiliency needs, the Town has installed three sets of ground-based solar arrays since 2015. These arrays provide approximately 60 kW of electricity to Town Hall, the Town-owned community health clinic, the public library, and the Town's Materials Recovery Facilities. An additional 25 kW of capacity was destroyed when the Town's Emergency Services Building burned in March 2019.

This feasibility study would craft a plan so all Town buildings and services would be poised to operate continuously in a prolonged power outage, as well as have the ability to recover more quickly after any power outage.

The proposed study would examine the feasibility of:

- building a new 35 kW array at the rebuilt Emergency Services Building, to serve the ESB and Winter Transportation equipment, and possibly provide additional capacity to the nearby Materials Recovery Facility
- building 130 kW of new arrays at the Public Works maintenance buildings, Sanitary District, and Airport
- building a microgrid (or grids) to connect new and existing arrays
- connecting critical infrastructure through these grids; clusters could include Town Hall, Community Health Clinic, Municipal Dock, Library, School, and ancillary buildings; the Emergency Services Building and Winter Transportation Building; Public Works Garages, pumping stations at the Sanitary District, and Airport; and enhancing capacity at the Materials Recovery Facility site and elsewhere as appropriate
- creating battery capacity at key facilities for storing excess electrical generation
- installing electric vehicle charging stations at key facilities and locations, utilizing excess electrical generation for visitor and Town purposes
- purchasing electric vehicles for Town needs, including law enforcement and Public Works

Reference materials

- Map of facility locations and proposed microgrids
- Letter of support: Cheq Bay Renewables
- Letter of support: Madeline Island Ferry Line
- Letter of support: Madeline Sanitary District
- Letter of support: muGrid Analytics
- Letter of support: Solar CBI
- Letter of support: Xcel Energy

3.4.2 Key Partners and Stakeholders

The Town of La Pointe has jurisdiction over Town Hall, the Community Clinic, the Emergency Services Building, the Library, the Municipal Dock, Public Works Garages, Winter Transportation Building, the Materials Recovery Facility, and the Airport. The Town's Energy Committee, with staff support and hired consultants, would lead and coordinate the feasibility study. This study would provide concrete information and projections on which the Energy Committee can base recommendation to the Town Board and residents about the next steps in achieving grid-connected solar and storage for the majority of Town-owned buildings.

Energy Committee Members

- Larry Bean, Chair: Former director of Efficiency and Renewable Programs for the State of Iowa
- Glenn Carlson: Town Board Chair, certified public accountant, and former partner at the international accounting firms, Arthur Anderson, and Pricewaterhouse Coopers
- Zach Montagne: Director of the Madeline Sanitary District
- Robin Trinko Russell: Vice president of Madeline Island Ferry Line

The Committee has been in operation since 2008, under the direction of the Town Board. It has overseen a complete audit of energy use in Town facilities (and recommended improvements); overseen solar installations on five Town-owned buildings; assessed the potential transition of the Town's vehicle fleet to electric; assessed the potential of a wood gasification operation to provide heat and power; assessed the potential of utility-scale wind energy for the island; and organized wind energy and solar energy assessments for individual property owners (to provide guidance for owners interested in pursuing renewable energy for their residences or businesses).

Town of La Pointe Staff

- Dorgene Goetsch, Office Administrator: Support staff for the Energy Committee; employed 2 years with the Town of La Pointe
- Michael Kuchta, Town Administrator: Joined the Town of La Pointe in 2021. Former executive director of the Como Community Council in Saint Paul, MN, and communications coordinator at multiple 501.c.3 nonprofit organizations
- Barb Nelson, Accounting Administrator: employed 23 years with the Town of La Pointe
- Ben Schram, Public Work Director: Responsible for Town property management and maintenance; employed 7 years with the Town of La Pointe

Partners

- Cheq Bay Renewables is a local nonprofit working to make renewable energy more accessible in Ashland and Bayfield counties in northwestern Wisconsin. The Town of La Pointe is in Ashland County.
- Madeline Island Ferry Line, based in La Pointe, operates five passenger and vehicle ferries between Madeline Island and the City of Bayfield on the Wisconsin mainland. It leases space on the Town dock and provides the island's transportation lifeline.
- Madeline Sanitary District is an independent agency that operates a wastewater treatment facility for Madeline Island.
- muGrid Analytics (of Conifer, CO) was founded in 2016; it provides expertise in energy system operation, energy markets, and financial engineering, including the economics of battery energy storage. muGrid would be a contractual consultant; estimated cost would be $24,000, plus $3,000 travel for two principals between Colorado and Wisconsin. In addition, muGrid will provide pro bono services as described below.
- Solar CBI LLC (of Amherst, WI) was founded in 2019. It provides consulting, installation, and inspection services for municipalities, nonprofits, businesses, and homeowners, with a focus on grid-connected, solar, storage, and off-grid projects. Solar CBI would be a contractual

consultant; estimated cost would be $16,000. In addition, Solar CBI will provide pro bono services as described below.

- Xcel Energy is a Minnesota-based utility holding company that provides electricity to Madeline Island and 3.7 million customers in eight states.

3.4.3 Project Resilience Objectives and Metrics

The feasibility study would define the specific logistics, costs, challenges, and opportunities in developing and maintaining an independent and resilient power grid or grids for public buildings, so key infrastructure in La Pointe could operate in "island mode" when necessary or advantageous. The specifics include an updated energy analysis of the Town's electric services, sizing for photovoltaic and battery storage systems, the costs and potential utility of electric vehicle charging infrastructure, optimizing cost recovery for existing PV systems, and financials and costs for all services and potential projects.

Metrics to measure project effectiveness would take into account the conditional nature of resilience and variable benefits to the community. Metrics would be measured at each microgrid cluster, and assessed for the town as a whole.

Performance Objective	Metric	Measurement	Notes
Resilience for critical infrastructure	Resilience duration able to support critical loads at each cluster	Hours of microgrid operation without refueling at a given confidence	Critical infrastructure may be considered the minimum loads that the microgrids will support
Resilience for non-critical infrastructure	Resilience duration able to support all loads (or increases due to emergency) at each cluster	Hours of microgrid operation without refueling at a given confidence	In an extended grid outage, non-critical loads are important, and may even grow due to emergency services
Economic benefit	Net Present Value (NPV)	$	NPV describes the total cost-benefit of the systems over their anticipated lifecycles
Affordability	Capital cost	$	Capital cost indicate how much funding La Pointe will need to raise or set aside to realize the project

3.4.4 Evaluation of Site-Specific Information

The microgrids would focus on three clusters of Town infrastructure (see map). The Town has jurisdiction over the vast majority (but not all) of the land, structures, and right-of-way.

- Town cluster: Town Hall, Community Clinic, Library, School, Municipal Dock, and ancillary buildings.

- Emergency Services/MRF cluster: Emergency Services Building, which houses police, fire, and ambulance operations; Winter Transportation Building, which houses equipment for ice rescue and transportation across the Lake Superior channel to the mainland; and the Materials Recovery Facility, which houses the Town's recycling and related salvage and re-use operations.
- Public Works cluster: Three Public Works garages that store roads, snow removal, parks, and other equipment; the Airport, which includes a 3,000-foot concrete runway and private hangars; and the Madeline Sanitary District, which operates a state-permitted wastewater treatment facility, a small collection system in the central "town" portion of La Pointe, and a receiving station for independent haulers who service private holding tanks, portable toilet facilities, and public pit toilets.

The Town has the following generating capacity:

Photo Voltaic

- *Madeline Island Public Library/Community Clinic.* These two buildings (totaling 5,824 square feet) were converted to solar energy in 2015. They share a ground-mount array of 18kW, which is net-metered with Xcel Energy. In 2020, the two buildings used 12,495 kW of electricity; the solar array generated 16,898 kW, for a surplus of 4,403 kW.
- *Materials Recovery Facility.* The main building at the Materials Recovery Facility (4,032 square feet) houses equipment such as a glass crusher and two trash compactors. Other buildings on site total 2,796 square feet. The main building was fitted with a 22.8 kW roof-mount solar installation in 2017, which is net-metered with Xcel Energy. In 2020, the main building used 21,751 kW of electricity; the solar array generated 17,656 kW. In addition, other buildings on the site used 717 kW of electricity in 2020; in total, the facility used 4,812 kW above what the solar installation generated in 2020.
- *Town Hall*. La Pointe Town Hall (4,488 square feet) has a ground-mounted solar energy system of approximately 27.7kW, installed in 2018; it is net-metered with Xcel Energy. In 2020, the building used 10,112 kW of electricity; the solar array generated 15,482 kW, for a surplus of 5,370 kW.

Combined, the Town Hall/Library/Clinic solar arrays generated a surplus of 9,773 kW in 2020 – power that could be channeled into additional uses or used by other Town infrastructure if a microgrid existed.

In addition:

- *Emergency Services Building*. The original Emergency Services Building (8,050 square feet) was fitted with a roof-mount solar system of approximately 22kW in 2018. The entire building burned to the ground on March 6, 2019. A new 10,000-square-foot EMS building opened in April 2021, but the new site does not have solar installed.

Propane generators

- Clinic: 17 kW
- Town Hall: 17 kW

Town Buildings

Building	*Square feet*	*Electricity Use 2020 (kW)*	*Solar Generated 2020 (kW)*
Town Cluster			
Town Hall	4,488	10,112	15,482
Library	4,480	4,476	11,964
Clinic	1,344	8,019	4,934
Public restrooms	336	1,654	0
Dock	NA	38,480	0
Total	*NA*	*62,741*	*32,380*
EMS/MRF Cluster			
Emergency Medical Services	10,000	NA	0
Winter Transportation	2,160	5,401	0
Materials Recovery buildings	5,748	21,751	17,656
Island Closet	1,080	717	0
Total	*NA*	*27,869*	*17,656*
Public Works Cluster			
Snow Removal Equipment	3,300	12,400	0
Town Shop	3,053	15,532	0
Roads Storage Building	Unknown	5,606	0
Airport	NA	24,480	0
Sanitary District	NA	Unavailable*	0
Total	*NA*	*58,018*	*0*

** The Sanitary District consumed 119,291 kW in 2017.*

3.4.5 Technologies Under Consideration

- Solar arrays: approximately 165 kW total, using ground-mounted, roof-mounted, racking, or pole-mounted installation, depending on site
- Lithium-ion battery storage: approximately 100 kWh capacity total, divided among various sites
- Inverters, interface, and other balance-of-system components

3.4.6 Cost Match

- Personnel.
  Town Administrator prepares and executes grant contract and related subcontracts; oversees subcontractor work; presents project information to Town Board; prepares articles for media, public, and other audiences; writes and submits OEI-required reports.
  50 hours @ 31.25/hour = **$1,562.50**

  Accounting Administrator prepares budget amendments required with grant award; prepares financial reports required by OEI; processes subcontractor invoices and prepares payments.
  15 hours @ $31.91/hour = **$478.65**

Public Works Director assists subcontractors in accessing Town property, examining existing power and solar installations, and determining the best alternatives; oversees subcontractor work.
20 hours @$30.60/hour = **$612.00**

Energy Committee Members are the decisionmakers for this project; they meet at least monthly to discuss the process and to make decisions for final plan contents.
5 hours x 4 members @ $20/hour = **$400.00**

- Fringe.
  Fridge benefits are not calculated as a match.

- Equipment.
  No equipment is included in the grant request or as a match.

- Supplies.
  No supplies are included in the grant request or as a match.

- Travel.
  Ferry fees may be incurred by partners, Town staff, or Energy Committee members as part of attending meetings or researching equipment or installations.
  $43 round trip for vehicle/passenger @ 10 trips = **$430.00**

- Contractual.
  Solar CBI has offered to provide a pro bono contribution of 40 hours at $100.00/hour.
  = $4,000.00
  muGrid Analytics has offered to provide a pro bono contribution of 15 hours at $225.00/hour**.**
  = $3,375.00

- Indirect.
  No indirect expenses are included in the grant request or as a match.

3.4.7 Data Collection Plan

The Town has had preliminary conversations with two consultants.

- Solar CBI (of Amherst, WI) would perform an energy analysis of the Town's electrical use, including analyzing historical data and installing eGauge monitors to track real-time use patterns; analyze existing photovoltaic systems, including consumption and production data; and calculate system-sizing requirements for new renewable and storage installations and uses (including electric vehicle charging stations
- muGrid Analytics (of Conifer, CO) would use data from Solar CBI and its own research to perform a design study to project the resilience performance of each microgrid and the cost and economic benefits of a microgrid or grids among existing and proposed renewable systems. The work would include projecting cost savings of grid connection, performing stochastic resilience

performance analysis of backup power in resilient mode, and sizing battery storage to work in tandem with existing solar and firm electrical generation.

3.4.8 Systems Sizing Analysis

A consultant such as Solar CBI would perform an energy analysis of the Town's electrical use, including analyzing historical data and installing eGauge monitors to track real-time use patterns; analyze existing photovoltaic systems, including consumption and production data; and calculating system-sizing requirements for new renewable and storage installations and uses (including electric vehicle charging stations).

A consultant such as muGrid Analytics would perform a stochastic resilience analysis to ensure that the microgrids are appropriately sized to meet resilience requirements. The analysis would include discussion of appropriate and achievable resilience requirements, incorporate existing assets, then size additional generation and storage assets to meet those goals. This process is iterative and collaborative, incorporating perspectives both from technical experts and from Town leadership. The study would note design and engineering considerations necessary to combine multiple buildings into a single, symbiotic microgrid at each cluster.

Resilience modeling is still nascent across the industry. Many times, resilience performance is assumed to be deterministic – that there is a single number that defines resilience at a site, perhaps as an average or minimum operating duration. However, we would approach resilience performance as stochastic, and would characterize it both with expected outage survival duration and probable confidence levels. Resilience performance is dependent upon several stochastic variables, including (but not limited to) weather, solar irradiance, cloud cover, time of day and time of year of the outage, and load at the facility. Some of these variables have characterizable but not fully predictable cross-correlation; for example, solar conditions and building load both may be affected by the time of day or time of year of the outage. But even if the relationships are characterized, the conditions at the beginning of an outage are never fully known enough to calculate a deterministic resilience duration. Therefore, the analysis would include multiple descriptors of resilience performance, including probability, or confidence, for a given duration.

The study anticipates the primary resilience metric would be resilience duration, which it would define as how long a microgrid can support its dedicated loads after a grid outage but before the microgrid fails due to lack of power – whether that lack of power is caused by battery depletion, fuel depletion in a generator, or lack of solar irradiance. Other resilience metrics could include the time needed to recover functionality after the first failure (such as, how long it takes solar power to recharge the battery) and secondary resilience duration (how long the microgrid can run after it recovers functionality). All duration values – time to first failure or primary resilience duration, recovery duration, and secondary resilience duration – must be paired with confidence levels in order to provide useful analysis. The confidence values are not randomly distributed; they are highly correlated to time of year and load conditions at the building, and also may correlate to time of day. Therefore, resilience performance would not be presented as a deterministic number, but rather as a full graphic capturing the impact of these other variables.

A stochastic resilience analysis allows the study to refine resilience requirements and the corresponding sizing and configurations of microgrid assets.

3.4.9 Financial Analysis (including cost/benefit analysis, financing options)

A consultant such as muGrid Analytics would project the cost and economic benefits of a microgrid or grids among existing and proposed renewable systems. The work would include cost estimates to combine individual facilities into a single microgrid at each cluster, and projecting the utility savings of grid connection, backup power in resilient mode, and sizing battery storage to work in tandem with existing solar and firm electrical generation.

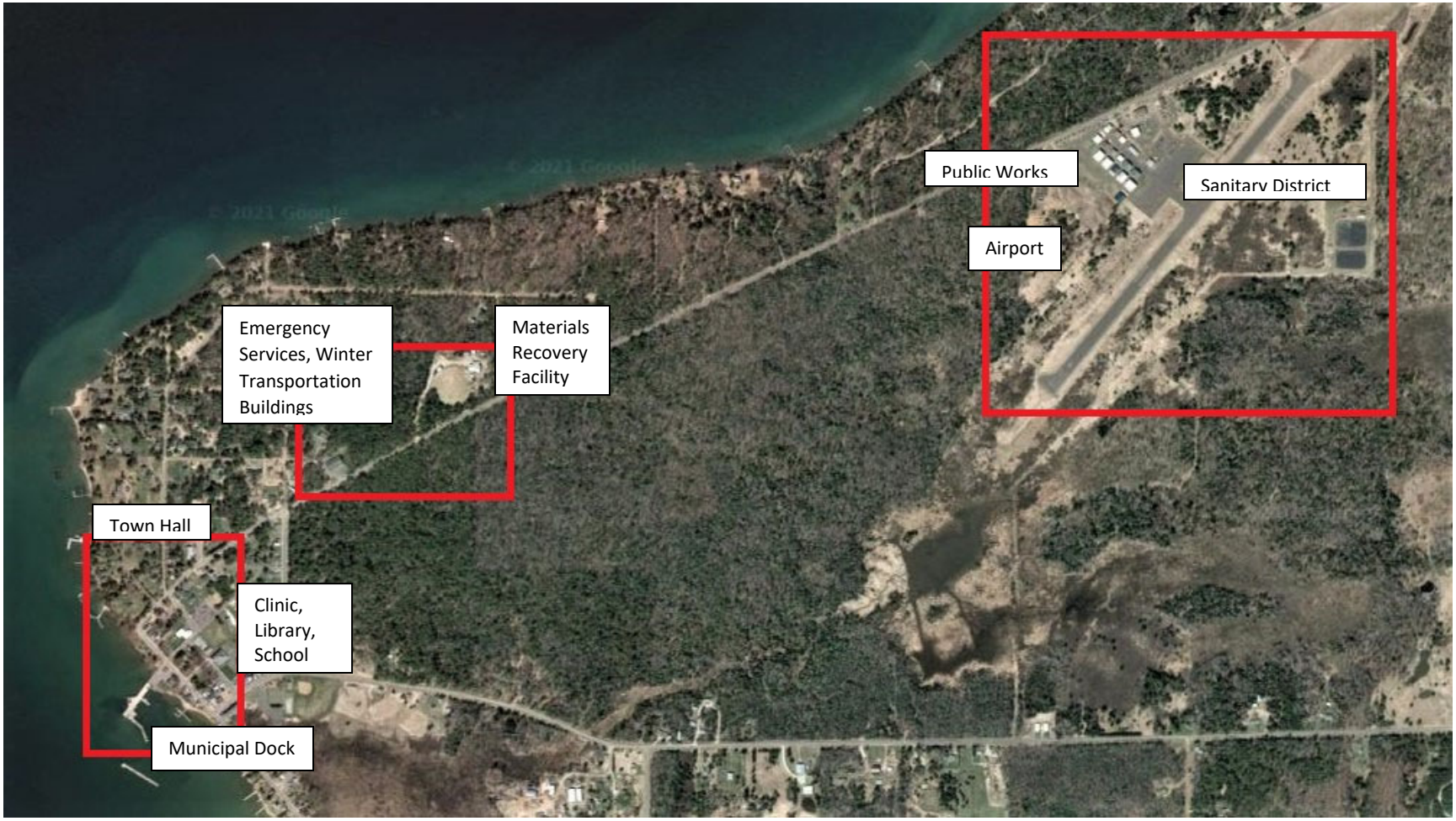
Once the microgrid systems' storage and backup generation components are sized for resilience, the study would perform an economic optimization using building-load profiles, solar-generation options, and storage potential. For financial assessment, the study would determine optimal grid-connected operations and calculate stacked revenue streams, optimizing for the best value dispatch at every given timeframe, taking into account both costs and benefits.

muGrid's Redcloud platform has been used to optimize microgrids across the U.S., including in Wisconsin. Using Redcloud would allow the feasibility study to control the source code, which would mean the study could adapt the mathematical optimization tool to the project, rather than adapt the project to the tool. (The project team is also familiar with other best-in-class microgrid optimization tools, including NREL's REopt and LBNL's DER-CAM.)

The study would demonstrate utility bill savings available by using solar generation and battery storage. It also would model any other revenue streams available through rate tariff and utility programs. Revenue streams may include but are not limited to peak shaving (on-site peak demand charge reduction), energy arbitrage (time-shifting solar), demand response (responding to grid requests during network peaks), and ancillary service programs as available. The study would perform techno-economic optimization for existing assets and all technologies under consideration.

3.4.10 Environmental Impact

Results from the feasibility study would provide a framework from which to make accurate projections of the environmental impact and resiliency of one or more microgrids supporting key island infrastructure.


Public Works
Sanitary District
Airport
Emergency Services, Winter Transportation Buildings
Materials Recovery Facility
Town Hall
Clinic, Library, School
Municipal Dock

Cheq Bay Renewables

Letter of Commitment
Ref: Madeline Island Energy Innovation Grant Program Application
To Whom it May Concern:

I can't think of a more appropriate place to have a microgrid. Madeline Island has thought about this for several years as they have assembled many solar PV projects throughout their community. Now, it is time too pull the pieces together and advance a comprehensive energy plan so they can achieve their long-term goal of increased resilience and independence.

muGrid Analytics has experience working on microgrids in our community. They completed a microgrid study for the Red Cliff Band of Lake Superior Chippewa Indians in 2016, continues to consult with the Bad River Tribe on their nearly-complete 3-microgrid project, and is working with Bayfield County to develop a new microgrid at their courthouse and jail complex. They would be a good fit to assist Madeline Island in developing their comprehensive energy plan.

Cheq Bay Renewables originally introduced muGrid to the area through a Department of Energy grant in 2016 called Solar in Your Community Challenge. Several megawatts later, muGrid is expanding its techno-economic influence and has been active here ever since. We feel we are well positioned to assist Madeline Island in their comprehensive energy plan because of our past work with muGrid and our experience in developing solar plus storage projects.

As a 100% volunteer non-profit we support Madeline Island's energy goals and will help with their comprehensive energy plan through in-kind consultation, working with the island staff, the island energy committee, muGrid Analytics and Solar CBI,llc.

Sincerely,

William (Bill) Bailey
President, Cheq Bay Renewables

MADELINE ISLAND FERRY LINE
POST OFFICE BOX 66
LA POINTE, WISCONSIN 54850
(715) 747-2051
www.madferry.com

August 2021

To whom it may concern:

This letter is intended to support the Town of La Pointe's application for a Critical Infrastructure Microgrid feasibility study. Madeline Island Ferry Line is a private company that provides nearly year-round service between Bayfield and Madeline Island. The ferry route is approximately 2.2 nautical miles in length, approximately 25 minutes en route. We operate five subchapter T ferries in the Lake Superior waters of Wisconsin. Our ferries carry vehicles and freight in addition to passengers (up to 149 passengers per vessel).

Residents, businesses, and students in the Town of La Pointe are fully dependent upon the Madeline Island Ferry Line for access to and from the mainland. The ferries are crucial for local construction, dock-building, and building-supply companies and contractors. The ferries and Town of La Pointe Dock also facilitate interstate commerce: the majority of the ferry line's summer passengers, vehicles, and freight (via services such as US mail, UPS, FedEx, and Spee-Dee) are from out of state. We employ upwards of 45 employees – which classifies us as a small business by most state and federal standards, but makes us one of the largest employers in the region.

On the mainland, we own our ferry landings and passenger terminal. On Madeline Island, we lease space on the Town of La Pointe dock. Dock operations are one of the largest uses of electricity on the island, and the dock absolutely requires a resilient supply of power. Our business and the lifeline it provides to the island cannot operate effectively without that certainty. This is especially true in winter, when electric-powered agitators and subsurface aerations systems are necessary to prevent ice buildup at the landings and along the dock. Without open water, our ferries cannot access the dock, which causes a cascading impact on the island.

In addition, ferries are "plugged" into shore power every night to keep the batteries charged and engine rooms warm (during cold weather). The above is key for the ferry kept at the Island dock in case of an ambulance, law enforcement or other emergency runs after normal operating hours.

As an island resident myself, I am a long-time supporter of the Town's efforts to establish energy resilience and independence. My membership on the Energy Committee demonstrates that personal and business commitment. I encourage you to fund the Town's proposed microgrid feasibility study.

Sincerely,

Robin Trinko Russell

Robin Trinko Russell
VP Finance/Shore Operations
Madeline Island Ferry Line Inc.
100 Main St.
La Pointe, WI 54850
715-747-2051
robintr@madferry.com

August 2021

To whom it may concern,

As the Operator in Charge of the Madeline Sanitary District for the past 12 years, I wish to lend my support to the initiative set forth by the Town of La Pointe Energy Committee and the Town Board in utilizing this incredible grant opportunity to further our goals of energy resilience and efficiency.

As an island community, we are particularly at risk of extended electrical outages and also committed to a cleaner, greener future for our land, waters and children. During my tenure at the Disrtict, we have experienced numerous extended outages which, while not catastrophic, have adversely affected our ability to operate our Wastewater Treatment Plant to its full potential.

I welcome the opportunity to investigate potential options in order to prevent further issue. We are also are perhaps the largest consumer of electricity on the island, due to the energy required to pump water and waste.

Once again, I applaud the effort to find more sustainable options of generation. With this, I would like to reaffirm our gratitude for this opportunity and lend my unabashed support.

Thank You,

Zach Montagne
Operator in Charge
Madeline Sanitary District

Letter of Commitment
Re: Town of LaPointe, Critical Infrastructure Microgrid Pilot Grant Application
Date: August, 4 2021

To the esteemed members of the review committee:

muGrid Analytics solves wicked problems at the intersection of energy and economics using math and modeling. They provide bankable techno-economic optimization of renewable energy, energy storage, and microgrids to project developers, financiers, component manufacturers, utilities, and property owners. With 10 years of combined experience in the new energy industry and 35 years combined experience in the modeling, design, and operation of complex technical systems, muGrid is uniquely positioned to provide comprehensive, data-driven advisory and design services to a wide range of energy stakeholders throughout the project life cycle. muGrid was founded by Dr. Travis Simpkins, who previously architected and developed the microgrid modeling capabilities for the National Renewable Energy Laboratory.

The Town of La Pointe wishes to improve their energy and community resilience and increase independence for their geographically isolated community. They have already made tremendous strides in investing in renewable generation and backup power on the island, and in preliminary consideration of more comprehensive microgrid system.

In this microgrid pilot study, muGrid will by pleased to support this project by providing advanced analytics, stochastic resilience modeling, financial projections, optimized sizing and operational strategy, as well as expert advisory services for the Town of LaPointe's three identified microgrid clusters. muGrid will be willing to committed up to 15 hours of principal consultant time, which is valued at $3,375, as a cost share to this project. The final value of the cost share will be determined when a scope of work is approved.

I look forward to the continued success of the Town of La Pointe energy programs, and to the partnership of the Wisconsin Office of Energy Innovation in the town's efforts to improve sustainability and resilience for their community.

Sincerely,

Amy L Simpkins
CEO, muGrid Analytics

SOLAR·CBI
Consult. Build. Inspect.

Town of La Pointe, WI
240 Big Bay Road
La Pointe, WI 54850
715.747.6913

August 4th, 2021

Letter of Commitment

Dear Selection Committee,

I am writing to commit the participation of Solar CBI, llc to the microgrid feasibility study for the critical infrastructure of the Town of LaPointe on Madeline Island that is proposed to the Office of Critical Infrastructure Microgrid & Community Resilience Center Pilot Grant Program.

The Town of LaPointe through the guidance of their Energy Committee has taken many steps toward the utilization of distributed energy resources over the years. The ultimate goal has been and continues to be to install a resilient microgrid system on the island that can provide cost savings and backup power to the town's critical infrastructure.

Solar CBI, llc is a licensed & insured electrical contractor and WI inspection agency. Solar CBI has three divisions which provide consulting and training services, an installation team that focuses on residential and commercial solar + storage projects and an inspection division that provides electrical and solar specific inspections services.

Solar CBI would propose to perform an energy analysis of the Town's electrical use, including analyzing historical data and installing eGauge monitors to track real-time use patterns (including 15 minute interval data); analyze existing photovoltaic systems, including consumption and production data; and project system-sizing requirements for new renewable and storage installations and uses (including electric vehicle charging stations).

Please contact me by phone 715-292-7223 or email craig@solarcbi.com if you have any questions.

Craig Buttke

President, Solar CBI, llc.

1414 W. Hamilton Ave
P.O. Box 8
Eau Claire, WI 54702-0008

August 5, 2021

Public Service Commission of Wisconsin
Office of Energy Innovation
Hills Farms State Office Building
4822 Madison Yards Way
Madison, WI 53705

Re: Critical Infrastructure Microgrid/ Community Resilience Center Grant

Dear Office of Energy Innovation:

On behalf of Xcel Energy, I am writing to express support for the Town of La Pointe's application for a "Critical Infrastructure and Community Resilience Center Pilot Grant" to be used toward funding for a Microgrid Feasibility Study for several of the municipal buildings located on Madeline Island.

Xcel Energy is the sole provider of electricity on the island and it is served by a submarine cable that comes from the mainland in Bayfield and rests on the bottom of Lake Superior and exits on the island. Over the years, Madeline Island have raised concerns about/regarding the resiliency of the electricity system in the event that the submarine cable(s) were damaged, particularly in winter months when the island can be isolated due to ice conditions on Lake Superior.

As the Wisconsin's largest provider of renewable energy, Xcel Energy is on pace to serve customers with 80% carbon fee electricity by 2030 and has a goal to be 100% carbon free by 2050. Xcel Energy has a strong partnership with the Town of La Pointe and our teams have been working together for the past several years to evaluate resiliency options that would benefit their community.

Xcel Energy commends the PSCW/OEI in offering this funding opportunity to the public and private sectors to focus on innovative pre-disaster mitigation through critical infrastructure microgrids and other resilient building strategies by studying the feasibility of the deployment of distributed energy resources (DERs) and appropriately sized storage, along with a grid-interactive controls schema. We strongly believe that the Town of La Pointe's application for this grant meets the requirements and are excited about the opportunity it would provide to the Town in studying how resiliency options may be implemented for Madeline Island.

Sincerely,

Brian Elwood

Brian Elwood
General Manager, Customer and Community Service
Wisconsin and Michigan